

PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing Traffic Control Signal at the intersection of MD 410 (East West Hwy) and Pearl Street in Montgomery County. The existing pedestal pole structure shall be replaced by a new mast arm Traffic Signal with video detection and Countdown Pedestrian signals with audible pushbuttons. MD 410 (East West Hwy) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

- The intersection shall continue to operate in a NEMA three-phase, fully-actuated mode, with the MD 410 (East West Hwy) approach running in its own phase. The pedestrian phases across MD 410 (East West Hwy) shall now be Countdown pedestrian phases with audible pushbutton actuation. The pedestrian phases on Pearl Street shall now be Countdown pedestrian phases with audible pushbuttons. The Pearl Street approaches shall continue to operate concurrently.
- A full-traffic-actuated, eight-phase controller with video interface, 2-wire Control Unit and all necessary equipment housed in a NEMA size 6" base-mounted cabinet shall be installed at this intersection.
- Montgomery County signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the Montgomery County Signal Shop for testing and programming.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by the Montgomery County Signal Shop Contact Mr. Kamal Hamud at (240) 777-8761 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
- APS will function as follows:  
FOR MD 410 (EAST WEST HIGHWAY)  
a. When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross East West Highway"  
b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.  
FOR PEARL STREET  
a. When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Pearl Street"  
b. When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Jeff Wentz Assistant District Engineer - Traffic Phone: (301) 513-7358	Mr. Ed Rodenhizer Signal Shop 410-787-7652
Mr. Wayne Mowdy Assistant District Engineer - Maintenance Phone: (301) 513-7304	Mr. Sonny Bailey Sign Shop 410-787-7676
Mr. Augie Rebish District Engineer - Utility Phone: (301) 513-7350	The power company representative is: Mr. Steve Custer PEPCO Customer Design 201 W Gude Dr. Rockville, MD 20850 Phone: 301 548-4333
Mr. Richard L. Daff, Sr. Chief, Traffic Operations Division Phone: (410) 787-7630	

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..	DESCRIPTION	QUANTITY
971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	1 EA
973023	SHEET ALUMINIUM SIGNS	48 SF
	R3-1 "NO RIGHT TURN" sign, (30" x 30")	1 EA
	R10-11a (NO TURN ON RED)" sign, (30" x 24")	1 EA
	R3-2 "NO LEFT TURN" sign, (30" x 30")	1 EA
	R12-5(4) "NO THRU TRUCKS OVER 3/4 TON" sign (36" x 48")	1 EA
	Spec "Pearl St / (arrow) 7400 BLK. 7500 BLK (arrow)" sign, (variable x 18")	1 EA
	Pedestrian education R10-3(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS EAST-WEST HWY")	4 EA
	Pedestrian education R10-3(1) mod sign. (Note: Sign to read "PUSHBUTTON TO CROSS PEARL STREET")	4 EA

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

CAT NO.	DESCRIPTION	QUANTITY
120662	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS - ANY WIDTH	325 SF
203030	TEST PIT EXCAVATION	7 CY
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	245 SF
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	60 SF
634300	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH	160 LF
655105	4 INCH CONCRETE SIDEWALK	875 SF
655120	DETECTABLE WARNING SURFACE FOR CURB RAMPS	110 SF
800000A	16" COUNTDOWN PEDESTRIAN SIGNAL HEAD	8 EA
800000A	2 WIRE CONTROL UNIT	1 EA
800000A	AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	8 EA
800000A	1 CONDUCTOR (NO. 250 KCMIL) ELECTRICAL CABLE	65 LF
801004	CONCRETE FOR SIGNAL FOUNDATION	12 CY
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	320 LF
805155	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED	300 LF
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	120 LF
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	330 LF
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	40 LF
807202	METERED SERVICE PEDESTAL	1 EA
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	5 EA
813015	INSTALL OVERHEAD SIGN	48 SF
816001	VIDEO DETECTION CAMERA	3 EA
816005	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER	3 EA
816015	VIDEO INTERFACE EQUIPMENT	1 EA
818004	10 FOOT BREAKAWAY PEDESTAL POLE (Painted Federal Std No. 595a-20040)	5 EA
818052	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM (Painted Federal Std No. 595a-20040)	1 EA
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	7 EA
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	18 EA
861101	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	315 LF
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	480 LF
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	435 LF
861117	ELECTRICAL CABLE - 3 WIRE (NO. 4 AWG)	25 LF
871202	INSTALL CONTROLLER CABINET - BASE MOUNT	1 EA
873001	REMOVE AND SALVAGE EXISTING EQUIPMENT	1 EA
800000	ELECTRICAL CABLE - 2 CONDUCTOR TRAY (NO. 12 AWG)	405 LF

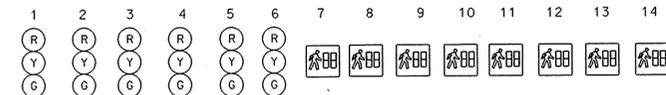
C. EQUIPMENT TO BE REMOVED

Montgomery County Forces shall remove the controller and all auxiliary equipment from the controller cabinet. The cabinet and all other removed signal materials are to become property of the contractor.

D. EQUIPMENT TO BE SUPPLIED BY MONTGOMERY COUNTY

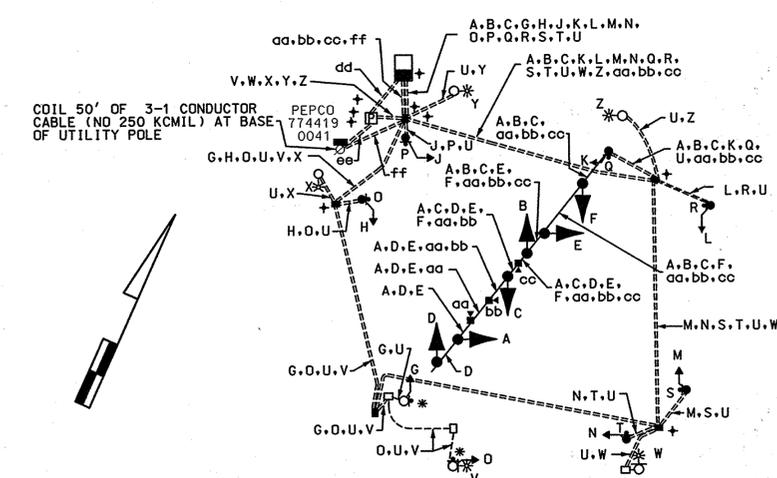
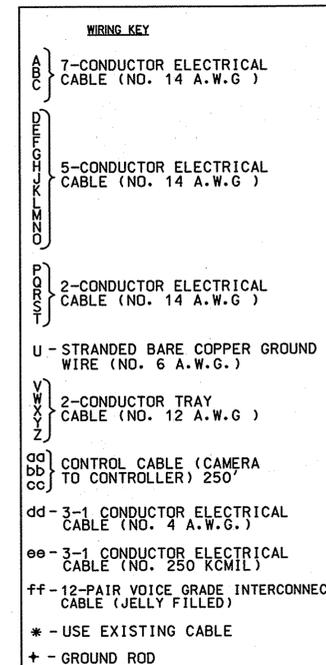
Montgomery County splice cabinet.

PHASE CHART



PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHASE 2	G	G	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR / COUNTDOWN	G	G	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 CHANGE	Y	Y	R	R	R	R	DW							
PHASE 4 & 8	R	R	G	G	G	G	DW							
4 & 8 CHANGE	R	R	G	G	G	G	DW							
PHASE 4 & 8 ALT	R	R	Y	Y	Y	Y	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEAR / COUNTDOWN	R	R	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT CHANGE	R	R	Y	Y	Y	Y	DW							
FLASHING OPERATION	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK							

WIRING DIAGRAM



**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

**MD 410 (EAST-WEST HWY) AND PEARL STREET**  
BETHESDA, MD

**GENERAL INFORMATION SHEET**

SCALE NONE DATE 6/18/07 CONTRACT NO. M02825185

DESIGNED BY JWA COUNTY MONTGOMERY  
DRAWN BY RC LOGMILE 15W41000.17  
CHECKED BY F.A.P. NO. AC-STPG-000A(241)E TMS NO. H162  
TOD NO.

TS NO. 4415B DRAWING NO. 2 OF 3 SHEET NO. 15 OF 42

**STREET TRAFFIC STUDIES, LTD.**  
400 Crain Hwy, NW  
Creston, MD 21117  
PH (410) 590-5500  
Fax (410) 590-6637

ADDENDUM 1: DATE: 10-16-07

DRILL HOLES

DRILL HOLES

DRILL HOLES

BORDER REV. DATE: June 1, 2004

15/000 5/13/05 13:58:03 138691-1061 10/07/2007 1:35:33 PM